

中国毛茛科植物小志(廿三)*

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Notulae de Ranunculaceis sinensibus (XXIII)

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Abstract (1) In this paper, differences among the five genera constituting the tribe Cimicifugeae of the family Ranunculaceae are discussed. *Beesia*, the first genus, with compound cymes and flowers bearing neither petals nor staminodes, is different from the other four genera with simple or compound racemes and flowers bearing either petals or staminodes, and may occupy a primitive position within the tribe. As to the other four genera, *Souliea* is characterized by the stem without basal leaf but with 2~5 sheath-like cataphylls, the sepals being deciduous but not caducous, moderate in size and petaloid, the petals being much smaller than sepals, but pink in color and more or less petaloid, the pollen grains being pantocolpate or pantoporate, the carpels being 1~3 per flower, when mature forming dry linear follicles conspicuously reticulate on the surface and dehiscent along the ventral suture, and the seeds being reticulate-foveolate on the surface. These diagnostic characters indicate clearly that *Souliea* might have deviated from the lineage formed by the next three genera, i. e. *Anemopsis*, *Cimicifuga*, and *Actaea*, which have their own well-recognizable diagnostic characters. *Anemopsis* is characterized by the normally developed basal leaf, the racemose inflorescence with sparse and few long pedicellate flowers, the sepals 7~10 in number, moderate in size, and petaloid, the petals slightly smaller than sepals, the tricolpate pollen grains, the carpels 2~4 per flower, stalked, when mature forming dry oblong follicles with transverse veins on the surface, and the seeds with scaly membranous wings. *Cimicifuga* is distinguished by the normally developed basal leaf, the caducous, small, often sepaloid sepals, the organs of the second floral whorl sometimes with empty sterile anthers being staminodes not petals, the tricolpate pollen grains, the carpels 1~8 per flower, when mature forming dry oblong or ovoid follicles with transverse veins on the surface, and the seeds usually with scaly membranous wings. The last genus *Actaea* is different by the basal leaf transformed into a small scale, the caducous, small, often sepaloid sepals, the organs of the second floral whorl being clawed petals, the pollen grains with 3(4~6) colpi, carpel 1 per flower, when mature forming a fleshy indehiscent berry smooth on the surface and without any veins, the seeds roughish or slightly rugose, neither foveolate nor winged on the surface, and the advanced most asymmetric karyotype. According to the diagnostic characters given above, we believe that *Beesia*, *Souliea*, *Anemopsis*, *Cimicifuga*, and *Actaea* do represent five independent genera, and the treatment of the tribe Cimicifugeae including these five genera in it by Hutchinson(1923), Janchen(1949) and some other authors, has precisely shown the taxonomic diversity within the tribe. We are therefore unable to accept the treat-

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ment published by Compton *et al.* (1998) to lump the two genera, *Souliea* and *Cimicifuga*, into the genus *Actaea*. (2) Compton *et al.* (1998, 1997) found out that the Chinese plants previously identified by various authors as *Cimicifuga foetida* L., in which the terminal and lateral racemes of the compound raceme flower more or less simultaneously, differ from the true *C. foetida* L. in northern Asia, in which the terminal raceme of the compound raceme flowers before the lateral ones, and thus restored the species name *Cimicifuga mairei* Lévl., which was formerly reduced to the synonymy of *C. foetida* L., for the Chinese plants. After examining the specimens collected from Siberia and from Southwest China we failed to find out any other differences in both vegetative and reproductive organs between the plants of the two regions, and we consider that it is better to treat the populations in Southwest and Central China as a geographical variety of *Cimicifuga foetida* L. A new combination, *Cimicifuga foetida* L. var. *mairei* (Lévl.) W. T. Wang & Zh. Wang, is thus made. (3) 3 species of *Delphinium*, 1 species and 1 variety of *Clematis* are described as new.

Key words *Beesia*; *Souliea*; *Anemopsis*; *Cimicifuga*; *Actaea*; *Delphinium*; *Clematis*; Taxonomy; New taxa; China

摘要 (1) 对升麻族铁破锣属、黄三七属、疏花升麻属、升麻属和类叶升麻属的重要区别特征进行分析之后认为铁破锣属在此族居于原始地位,其他四属互有清楚、稳定的区别特征,是四个独立的属,应予以保持,因此不同意英国学者 J. A. Compton 将黄三七属和升麻属并入类叶升麻属的处理。(2) 由于过去被鉴定为 *Cimicifuga foetida* L. 的中国居群与分布于亚洲北部的真正的 *C. foetida* L. 除了花序不同部分开花时间上的区别之外无其他重要区别,遂将此中国居群作为 *C. foetida* L. 位于其分布区南部的一个地理变种。(3) 描述了翠雀属 3 新种,铁线莲属 1 新种 1 新变种。

关键词 铁破锣属; 黄三七属; 疏花升麻属; 升麻属; 类叶升麻属; 翠雀属; 铁线莲属; 分类学; 新分类群; 中国

黄三七属

Souliea Franch. in Journ. de Bot. 12:68. 1898; Finet & Gagnep. in Bull. Soc. Bot. France 51:518. 1904; Hutch. in Kew Bull. 1923:87. 1923; et Fam. Flow. Pl. ed. 2, 1: 402. 1959; Janchen in Denk. Akad. Wiss. Wien Math. Natur. Kl. 108(4):52. 1949; Hsiao in Fl. Reip. Pop. Sin. 27:91. 1979; Tamura in Heipko, Nat. Pflanzenfam. Aufl. 2, 17a(4):257. 1995. Type: *Souliea vaginata* (Maxim.) Franch.

Actaea L. sect. *Souliea* (Franch.) J. Compton in Taxon 47:613. 1998, syn. nov.

单种属,分布于我国青藏高原、横断山区及邻近地区。

黄三七

Souliea vaginata (Maxim.) Franch. in Journ. de Bot. 12:69. 1898; Finet et Gagnep. in Bull. Soc. Bot. France 51:518. 1904; Drumm. & Hutch. in Kew Bull. 1920: 167. 1920; Hand.-Mazz. Symb. Sin. 7:271. 1931; et in Acta Hort. Gotob. 13:46. 1939; Iconogr. Corm. Sin. 1:661, fig. 1322. 1972; Fl. Tsinling. 1(2): 248. 1974; Hsiao in Fl. Reip. Pop. Sin. 27:91, pl. 18. 1979; C. Y. Wu, Ind. Fl. Yunnan. 1:128. 1984; W. T. Wang in Fl. Xizang. 2:15. 1985; L. Q. Li in Vasc. Pl. Hengduan Mount. 1:444. 1993; L. H. Zhou in Fl. Qinghai. 1:297. 1997.

Isopyrum vaginatum Maxim. Fl. Tangut. 18, t. 30. 1889. Type: Gansu, in valle Runwyr-Lunwa, 1885-03-23, Potanin s. n. (isotype, PE).

Actaea vaginata (Maxim.) J. Compton in Taxon 47:613. 1998, syn. nov.

毛茛科的升麻族 Trib. Cimicifugeae 包含 5 属。第 1 个属,铁破锣属 *Beesia* (杨亲二, 1999; 汪小全等, 1998; 杨亲二等, 1995; Xi & Ning, 1993; 王文采, 肖培根, 1979; Buchheim, 1964; Janchen, 1949; Hutchinson, 1923) 具复伞形花序, 花无花瓣或退化雄蕊, 叶为不分裂的单叶而与其他 4 属(花序为简单或复杂的总状花序, 花有花瓣或退化雄蕊, 叶为 1~3 回三出或三出羽状复叶)不同。由于总状花序可能由复聚伞花序演化而来 (Stebbins, 1973), 在毛茛科中无花瓣为原始现象, 花瓣或退化雄蕊的出现为次生现象 (Tamura, 1995), *Beesia* 在升麻族中应居于原始的地位, 在这方面有关孢粉学的研究 (Wang *et al.*, 1993) 和分子系统学的研究 (汪小全等, 1998) 已得出相同的结论。但 *Beesia* 的不分裂的单叶 (Tamura, 1995, 1963), 以及花具 1 枚心皮的现象可能是进化的特征, 其他 4 属虽有上述共同的特征, 而表现出较近的亲缘关系, 但在一些重要形态学、孢粉学和细胞学特征上存在重要区别。黄三七属 *Souliea* 的主要特征: 植株基部有 2~4 枚鞘状低出叶, 花序为简单的总状花序, 萼片不早落, 中等大, 花瓣状, 花瓣比萼片短 2 倍以上, 呈扇状倒卵形, 粉红色, 所以虽较小仍多少花瓣状, 花粉具散沟或散孔而与升麻族其他属的花粉不同 (Nowicke & Skvarla, 1995; Xi & Ning, 1993; Wang *et al.*, 1993), 心皮 (单雌蕊) 1~3 枚, 成熟时形成条形狭长的蓇葖果, 沿腹缝线开裂, 表面有隆起的脉网, 种子有网状洼陷 (Wang *et al.*, 1993; 肖培根, 1979)。疏花升麻属 *Anemopsis* 的主要特征: 基生叶正常发育, 总状花序有少数稀疏的花, 花有长花梗, 萼片 7~10 枚, 中等大, 花瓣状, 花瓣比萼片稍小, 花粉具 3 沟, 心皮 2~4 枚, 有柄, 成熟时形成长圆形蓇葖果, 表面有横脉, 种子有膜质鳞状翅。升麻属 *Cimicifuga* 的主要特征: 基生叶正常发育, 花序为简单或复杂的总状花序, 有密集、具短梗或无梗的小型花, 萼片 4~5 枚, 早落, 小, 常呈淡绿色或绿白色而为萼片状, 花的第二轮器官有时具 2 枚空花药 [*C. dahurica* (Turcz.) Maxim.], 因此是由雄蕊变成的退化雄蕊, 花粉具 3 沟 (Xi & Ning, 1993; Wang *et al.*, 1993; 王伏雄等, 1995; Nowicke & Skvarla, 1995), 心皮 1~8 枚, 成熟时形成长圆形或卵形蓇葖果, 表面有微隆起的横脉, 种子常有膜质鳞状翅 (Wang *et al.*, 1993)。类叶升麻 *Actaea* 的主要特征: 基生叶强烈退化成一鳞片, 花序为简单的总状花序, 花具短梗, 萼片早落, 小, 白色或淡绿色, 常萼片状, 花瓣有爪, 花粉有 3(4~6) 沟 (王伏雄等, 1995; Xi & Ning, 1993; Wang *et al.*, 1993), 心皮 1 枚, 成熟时形成不开裂、椭圆球形, 表面平滑的肉质浆果, 种子卵球形, 表面稍粗糙, 无网状洼陷或鳞状翅 (Wang *et al.*, 1993), 此属的核型极不对称, 具 2 条没有短臂的 T 染色体而与升麻族的其他 4 属不同 (杨亲二, 1998)。从上述 4 属的区别特征可以看出, 黄三七属 *Souliea* 以其独特的低出叶、花粉、种子而与 *Anemopsis*, *Cimicifuga*, *Actaea* 区别开来, 根据其在本族中独特的花粉构造, 席以珍等曾提出 *Souliea* 应从升麻族中移出 (Xi & Ning, 1993)。后 3 属可能在升麻族中形成一演化支, 互相间亲缘关系相近, 但也存在明显的区别。最近, 英国学者 J. A. Compton (Compton *et al.*, 1998) 根据分子系统学研究将 *Souliea*, *Cimicifuga* 均归并到 *Actaea*, 根据上述情况, 我们不表示赞同。

升麻属

Cimicifuga L.

升麻 变种

Cimicifuga foetida L. var. *mairei* (Lévl.) W. T. Wang & Zh. Wang, st. et comb. nov. — *C. maireri* Lévl. in Bull. Acad. Ind. Int. Geogr. Bot. 25:43. 1915; et Cat. Pl. Yunnan 220. 1917. Type: Yunnan, Ma-hong, alt. 2800 m, 1911-08, Maire 7468 (lecto-type, E, fide Compton & Hedderson, 1997). — *Actaea maireri* (Lévl.) J. Compton in Taxon 47:622. 1998, syn. nov. TYPE:

Cimicifuga foetida auct. non L.: Franch. Pl. Delav. 31. 1889; Huth in Bot. Jahrb. 16:317. 1893, p. p.; Finet et Gagnep. in Bull. Soc. Bot. France 51:521. 1904; Hand. - Mazz. Symb. Sin. 7:272. 1931; Lauener & Green in Not. R. Bot. Gard. 23(4): 579. 1961; Iconogr. Corm. Sin. 1:663, fig. 1325. 1972; Fl. Tsinling. 1(2):250, 214. 1974; Fl. Hupeh. 1:331. 1976; Hsiao in Fl. Reip. Pop. Sin. 27:101, pl. 19, fig. 1~4. 1979; C. Y. Wu, Ind. Fl. Yunnan. 1:105. 1984; W. T. Wang in Fl. Xizang. 2:15. 1985; X. W. Wang in Fl. Anhui 2:308. 1986; X. Y. Yu *et al.* in Fl. Shanxi. 1:559. 1992; L. Q. Li in Vasc. Pl. Hengduan Mount. 1:445. 1993; W. T. Wang in Keys Vasc. Pl. Wuling Mount. 161. 1995; L. H. Zhou in Fl. Qinghai. 1:298. 1997.

A var. *foetida* differt inflorescentiae ramo terminali cum ramis lateralibus plus minusve simul florente.

Yunnan(云南): Degen(德钦), T. T. Yu(俞德浚)9405(PE); Dali(大理), T. N. Liou(刘慎谔)21178(PE). **Sichuan**(四川): Tianquan(天全), X. L. Jiang *et al.*(蒋兴麟等)35348(PE); Chengkou(城口), T. L. Dai(戴天伦)102355(PE). **Gansu**(甘肃): Jone(卓尼), Z. B. Wang(王作宾)5535(PE). **Qinghai**(青海): Datong(大通), J. M. Liu(刘继孟)6525(PE). **Shaanxi**(陕西): Mt. Taibai(太白山), T. N. Liou, B. Q. Zhong(钟补求)454(PE). **Hubei**(湖北): Jianshi(建始), L. Y. Dai(戴伦膺)1269(PE).

分布:西藏南部、云南、四川、青海东部、甘肃、陕西、山西南部、河南南部、湖北、安徽西部;喜马拉雅山区。

Compton (Compton *et al.*, 1998, 1997)发现过去鉴定为 *Cimicifuga foetida* L. 的我国西南部至中部的植物,其复总状花序的所有分枝的花几乎同时开花,而与分布于亚洲北部的这种植物不同,在后者复总状花序的顶生分枝上的花先开,侧生分枝的花后开,遂认为我国植物代表一独立种,并恢复了过去被归并入 *C. foetida* L. 的 *C. maireri* Lévl. 作为中国这个种的学名。最近我们在编写《中国高等植物》毛茛科稿时,研究了我国云南等地以及西伯利亚的 *C. foetida* L. 标本,除了上述花序分枝开花时间的区别之外,在营养器官和生殖器官等方面未能找到其他区别特征,而且发现少数标本(曲桂龄 2050, 采自四川巫山;关克俭,汪劲武,李朝奎 4136, 采自峨眉山),其花序的顶生分枝的花先开,侧生花枝的花后开。根据上述的观察,可见 *C. foetida* 南北二地区的植物无重要区别,在本文中,我们将我国西南部至中部的此种的居群作为 *C. foetida* L. 一个地理变种处理,并作出上述新组合。

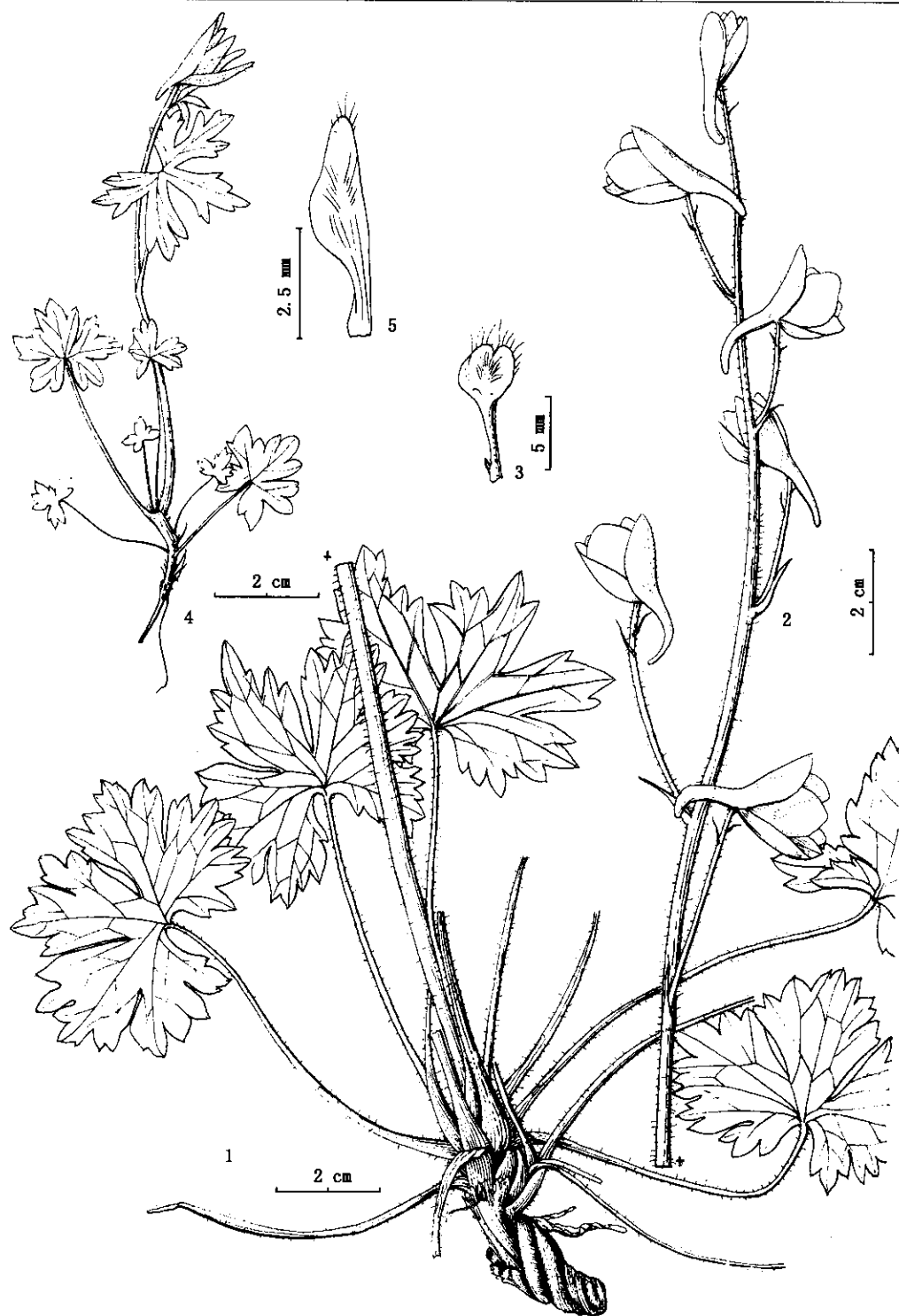


图1 1~3. 锦锂翠雀花 1. 植株下部; 2. 花序; 3. 退化雄蕊。4~5. 湟中翠雀花 4. 植株全形; 5. 退化雄蕊。
 Fig. 1 1~3. *Delphinium zhangii* W. T. Wang 1. Lower part of the plant; 2. Inflorescence; 3. Staminode.
 4~5. *Delphinium huangzhongense* W. T. Wang 4. Whole plant; 5. Staminode.

翠雀属

Delphinium L.

鐃钲翠雀花 新种 图 1: 1~3

Delphinium zhangii W. T. Wang, sp. nov. Fig. 1: 1~3

Affine *D. kaschgarico* C. Y. Yang & B. Wang, quod caule humiliore 15 cm alto, foliis minoribus, laminis 1.7~2 cm longis 3~3.2 cm latis minus divisis prope medium 3-fidis, racemo 2~3-floro, rhachidi pedicellisque pilis albis et eis glandulosis flavidis tectis, petalis ciliatis, ovariis superne tantum sparse puberulis differt.

Herba perennis. Rhizoma obliquum, robustum. Caulis ca. 40 cm altus, cum petiolis patule albo-hirtellus, simplex, nudus vel inferne foliis 2 parvis redactis instructus. Folia omnia basalia 6~8, longe petiolata; laminae coriaceae, ambitu pentagonae 3~4 cm longe, 5~6 cm latae, basi cordatae, ad 6~8 mm supra basin 3-partitae, lobo mediano late rhombico vel rhombico-obovato 3-lobato margine infra medium integro lobulis tertiariis pauce dentatis, dentibus late ovatis apice mucronulatis, lobis lateralibus oblique flabellatis inaequaliter 2-fidis, supra ad nervos sparsissime strigosae, subtus ad nervos hirtellae; petioli 5.5~8 cm longi, basi leviter dilatati. Inflorescentia racemosa terminalis, 22~28 cm longa, simplex ca. 12-flora, vel basi 1-ramosa, ramo ca. 8 cm longo 4-floro; bracteae 2.5~0.5 cm longae, vel lineari-lanceolatae, indivisae, vel infima 3-fida, lobis anguste lanceolatis vel linearibus margine serrulatis vel integris; pedicelli 2~5 cm longi, cum rhachidi albo-hirtelli, superne 2-bracteolati; bracteolae lanceolato-lineares, 4~6 mm longae. Flos purpureo-caeruleus. Sepalum superum late ovatum, 1.2~1.4 cm longum, 8~10 mm latum, intus glabrum, extus ad costam tantum puberulum, calcar cylindrico-subulato 1.3~1.5 cm longo apice paulo decurvato, sepala lateralalia orbiculari-obovata, 1.3~1.4 cm longa, ca. 1.1 cm lata, ea infera oblonga vel oblongo-navicularia, 1.3~1.4 cm longa, 5~8 mm lata. Petala nigra, apice 2-lobulata, glabra. Staminodia 9~10 mm longa, nigra, limbis late ovatis 4 mm longis 2-lobatis apice longe albo-ciliatis centro dense flavido-barbatis, unguibus glabris basi hamulosis. Stamina 6 mm longa, glabra. Carpella 3, 4.5 mm longa, ovariis 3 mm longis dense puberulis, stylis glabris.

Xinjiang(新疆): Akto(阿克陶), Oyitaki(奥依塔克), inter Muji(木吉) et Qiat(恰特), alt. 3500~3700 m, prope rivulum in declivitate, fl. purpureo-caerulei, 1998-08-16, Y. L. Zhang(张鐃钲)800(holotypus, PE); eodem loco, 1998-08-16, Ubbo Wuendisch 402(PE).

本种与喀什翠雀花 *D. kaschgaricum* C. Y. Yang & B. Wang 在亲缘关系上相近,但本种的茎较高,高约 40 cm;叶较大,叶片长 3~4 cm,宽 5~6 cm,3 深裂至中部之下距基部 6~8 mm 处;总状花序有约 12 花,花序轴和花梗只被白色短硬毛;花瓣无毛;子房密被短柔毛而可区别。在后者,茎高 15 cm,叶较小,叶片长 1.7~2 cm,宽 3~3.2 cm,3 裂至中部附近,总状花序只有 2~3 花,花序轴和花序梗除白色毛之外还被淡黄色腺毛;花瓣有缘毛;子房只在上部疏被短柔毛。

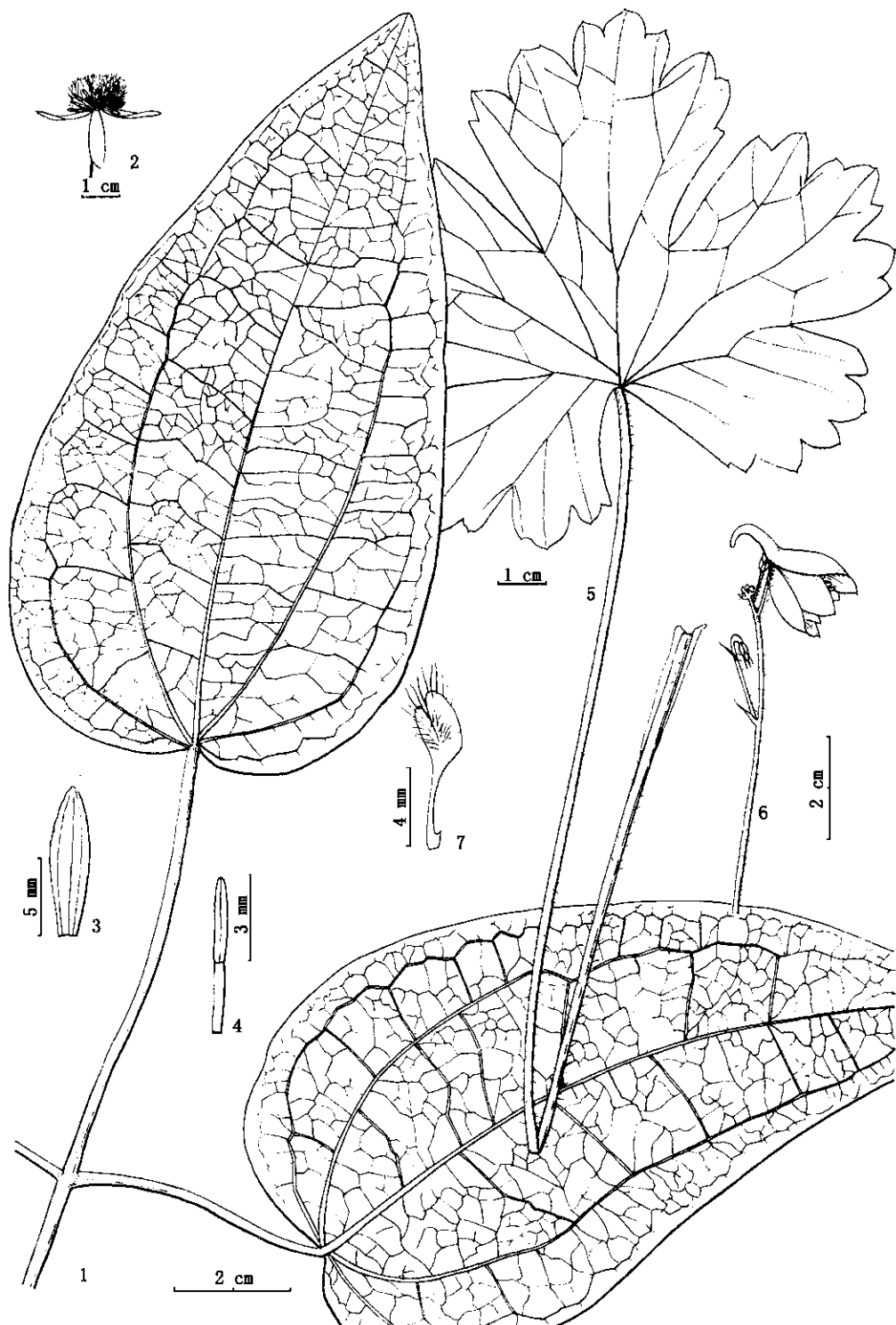


图2 1~4. 那坡铁线莲 1. 叶; 2. 花; 3. 萼片; 4. 雄蕊。5~7. 阿克陶翠雀花 5. 最下部茎生叶; 6. 花序; 7. 退化雄蕊。

Fig.2 1~4. *Clematis napoensis* W. T. Wang 1. Leaf; 2. Flower; 3. Sepal; 4. Stamen. 5~7. *Delphinium aktoense* W. T. Wang 5. Lowermost cauline leaf; 6. Inflorescence; 7. Staminode.

阿克陶翠雀花 新种 图 2:5~7***Delphinium aktoense* W. T. Wang, sp. nov. Fig. 2:5~7**

Affine *D. iliense* Huth, quod foliis caulinis paucioribus plerumque unicus raro usque ad quatuor brevius petiolatis, racemo 5~12-floro, pedicellis glabris 1~3.2 cm longis, bracteis bracteolisque longe ciliatis, petalis subglabris distinguitur.

Herba perennis. Caulis flaccidus, ca. 44 cm altus, cum petiolis patule albo-hirtellus, simplex, infra medium ca. 6-folius. Folium basale unicum(?), sub anthesi emarcidum. Folia caulina omnia longissime petiolata; laminae papyraceae, ambitu pentagonae, 3~7 cm longae, 5.5~11 cm latae, basi aperte cordatae, paulo ultra medium 3-partitae, lobo mediano obovato-obtrapezoido 3.2~4.8 cm lato apice 3-lobato margine pauce dentato, dentibus ovatis vel late ovatis apice acutiusculis vel rotundatis mucronulatis, lobis lateralibus majoribus oblique flabellatis inaequaliter 2-fidis, supra glabrae vel subglabrae, subtus ad nervos sparse pilosae; petioli 16~24 cm longi. Racemus terminalis brevis, ca. 3 cm longus, 3-florus; rhachis cum pedicellis albo-hirtella; bractee lineari-lanceolatae, 4~5 mm longae, albo-hirtellae; pedicelli 0.9~1.7 cm longi, prope apicem 2-bracteolati; bracteolae ca. 5 mm a flore remotae, bracteis similes, ca. 4 mm longae. Sepalum superum ovatum, ca. 1.5 cm longum, 9 mm latum, extus sparse pilosum, calcar cylindrico-subulato sepalo paulo brevior ca. 1.3 cm longo apice decurvato, sepala lateralibus elliptico-ovata, eo supero aequilonga, ea infera anguste et oblique obovata, 1.2~1.3 cm longa, 5~6 mm lata. Petala nigra, apice angustata, 2-lobata, sparse longeque ciliata. Staminodia nigra, ca. 9 mm longa, limbis late ovatis ca. 4 mm longis apice 2-lobatis et longe albo-ciliatis centro flavido-barbatis, unguibus limbos levissime superantibus basi hamamulosis. Stamina 5~6 mm longa, glabra. Carpella 3, 5.5 mm longa, ovaris adpresse puberulis, stylis eis paulo brevioribus glabris.

Xinjiang(新疆): Akto(阿克陶), Oyitaki(奥依塔克), Xiwaner(西玩儿), alt. 2800~3000 m, 1998-08-05, Ubbo Wüendisch 902(holotypus, PE).

本种与伊犁翠雀花 *D. iliense* Huth 相近缘,但茎生叶较多,有 8 枚,且均具极长叶柄(柄长 16~24 cm),总状花序短,只有 3 花,花梗被白色短硬毛,长 0.9~1.7 cm;苞片及小苞片被白色短硬毛,无长缘毛,花瓣顶端有少数长缘毛而不同。在后者,茎生叶有 1(~4) 枚,具较短柄(柄长 0.6~9 cm),总状花序有 5~12 花;花梗无毛长 1~3.2 cm;苞片和小苞片被长缘毛;花瓣近无毛。

湟中翠雀花 新种 图 1:4~5***Delphinium huangzhongense* W. T. Wang, sp. nov. Fig. 1:4~5**

Species nova floribus singulariter terminalibus haud in racemum dispositis, sepalis lanceolatis vel anguste lanceolatis, calcar sepalino sepalis brevior, staminodiis flavido-albis limbos apice indivisos et unguibus latos gerentibus, carpellis 5 glabris valde insignis et a congeneribus sinensibus omnibus distincta.

Herba perennis parva. Rhizoma verticale, tenue, 1~2 cm longum, 1~2 mm crassum. Caulis 7.4~8.6 cm altus, 0.9~1.1 mm crassus, retrorse adpressequae albo-puberulus, infra

florem pilis longioribus flavidis retrosis densis obtectus, plerumque simplex, 4~5-foliatus. Folium basale unicum, et folia caulina eo caulino supremo excepto omnia longe vel longiuscule petiolata; laminae subcoriaceae, ambitu pentagonae, 0.8~1.8 cm longae, 1.3~3.1 cm latae, basi aperte cordatae, 3-sectae vel 1 mm supra basin 3-partitae, lobo mediano rhombico 3-fido, lobulis secundariis anguste oblongis linearibus vel anguste ovatis apice acutiusculis margine integris vel 1~2-denticulatis, lobis lateralibus oblique flabellatis inaequaliter 2-partitis, supra utrinque adpresse puberulae, nervis planis obscuris; petioli 1.5~2.6 cm longi, basi levissime dilatati. Flos singulariter terminalis, cinereo-caeruleus. Sepalum superum lanceolatum, 1.25~1.35 cm longum, ca. 5 mm latum, apice attenuatum, intus tantum ad apicem puberulum, extus dense adpressequ puberulum, calcari subulato-cylindrico 5~7 mm longo deorsum arcuato apice obtusiusculo, sepala lateralialia eo supero similia, sed levissime breviora, ea infera anguste lanceolata, 1.25~1.4 cm longa, 3~3.5 mm lata. Petala flavido-alba, apice indivisa, glabra. Staminodia petalis concoloria, ca. 6 mm longa, limbis oblique ovatis ca. 3.8 mm longis apice indivisis obtusis et sparse ciliatis centro sparse albo-barbatis basi in unguis late lineares glabros late cuneatis. Stamina 3.8~5.2 mm longa, glabra. Carpella 5, ca. 2.5 mm longa, glabra.

Qinghai(青海): Huangzhong(湟中), Qunjia(群加), alt. 3900 m, in fructicetis, fl. cinereo-caerulei, 1989-07-22, S. W. Liu(刘尚武)3149(holotypus, PE).

本种是翠雀属中很独特的种,其特征为:花单朵顶生,而未形成总状花序,花的萼片狭长,呈披针形或狭披针形,萼距比萼片短,退化雄蕊淡黄白色,其瓣片顶端不分裂,其爪宽条形,心皮5枚,无毛。在翠雀花属中,大多数种均具多少狭长的总状花序,极少花序只具1花,花的萼片多为卵形或椭圆形,萼距比萼片长,很少比萼片短,退化雄蕊或呈紫黑色或黑色,或与萼片同色,呈蓝色、紫色或黄色,其爪细长,一朵花中的心皮多为3枚,很少5枚。根据本种上述的各独特的特征,在我国约160种的翠雀属植物中,作者未能找到与此种相近缘的种,因此,对本种的系统位置值得做进一步的研究。

铁线莲属

Clematis L.

那坡铁线莲 新种 图2:1~4

Clematis napoensis W. T. Wang, sp. nov. Fig.2:1~4

Proxima *C. jialasaensi* W. T. Wang endemicae in Xizang austro-orientali, qua ramis ad nodos petiolulis pedunculisque puberulis haud furfuraceis, foliolis tenuioribus chartaceis differt. Etiam similis *C. meyenianae* Walp., qua foliolis haud reticulatis, antheris apice apiculatis recedit.

Liana lignosa; rami hornotini teretes, ca. 4 mm crassi, longitudinaliter vadosae 12-sulcati, glabri, ad nodos minute denseque albido-furfuracei. Folia opposita, ternata, glabra; foliola coriacea, ovata vel anguste ovata, 10.5~14.5 cm longa, 4.8~8 cm lata, apice acutiuscula vel acuminata, basi subcordata vel truncato-rotundata, margine integra, 5-nervia, utrinque nervulis prominentibus retem conspicuum formantibus, petiolulis 3.8~8 cm longis;

petioli ca. 8 cm longi, basi apiceque albido-furfuracei. Inflorescentiae axillares, paniculatae, ca. 18 cm longae, multiflorae, glabrae; pedunculi ca. 8 cm longi, basi apiceque albido-furfuracei; bractae anguste triangulares, ca. 4 mm longae; pedicelli graciles, 0.8~1.8 cm longi. Sepala 4, alba, horizontaliter patentia, oblanceolata vel anguste oblonga, raro anguste obovata, 8~12 mm longa, 2.5~3.5 (~4.2) mm lata, apice obtusiuscula, raro truncata, utrinque glabra, sed extus ad marginem albo-velutina. Stamina numerosa, 4.8~6 mm longa, glabra, filamentis linearibus, antheris linearibus 2.5~3 mm longis filamentis subaequilongis vel ea leviter superantibus apice obtusis. Carpella numerosa, circ. 6 mm longa, ovariis pubescentibus, stylis dense villosis.

Guangxi(广西): Napo(那坡), Prope urbem, in fruticetis collis calcarei, fl. albi, 1998-04-12, H. N. Qin *et al.* (覃海宁等)442(holotypus, PE).

本种在亲缘关系上与加拉萨铁线莲 *C. jialasaensis* W. T. Wang(特产西藏东南部)极为接近,区别在于本种的枝条、小叶柄、花序梗均无毛,当年生枝的节上和花序梗的基部和顶端均被极小的白色软鳞片,小叶较厚,革质;在后者,枝条的节、小叶柄和花序梗均被短柔毛,无软鳞片,小叶较薄,坚纸质。本种也相似于毛柱铁线莲 *C. meyeniana* Walp., 但本种的小叶两面细脉均隆起,形成明显的脉网,花药顶端钝,可以区别;在后者,小叶两面细脉不隆起。无明显脉网,花药药隔顶端突出成小尖头。

单花锡金铁线莲 新变种

Clematis sikkimensis (Hook. f. & Thoms.) Drumm. ex Burkill var. **monantha** W. T. Wang & L. Q. Li, var. nov.

A var. *sikkimensi* differt rami foliis supremis simplicibus, cymis axillaribus unifloris, sepalis extus puberulis.

Yunnan(云南): Weixi(维西), 1940-11, G. M. Feng(冯国楣)8694(holotypus, PE).

本变种的枝条近顶端的叶为单叶,腋生花序具1朵花,萼片外面被短柔毛。在模式变种,叶全为三出复叶,腋生花序有7~20朵花;萼片外面无毛。

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参 考 文 献

- Compton J A, Hedderson T A J, 1997. A morphometric analysis of the *Cimicifuga foetida* L. complex(Ranunculaceae). Bot J Linn Soc, 123:1~23
- Compton J A, Culham A, Jury S L, 1998. Reclassification of *Actaea* to include *Cimicifuga* and *Souliea* (Ranunculaceae): phylogeny inferred from morphology, nrDNA ITS and cpDNA *trnL-F* sequence variation. Taxon, 47:593~634
- Hutchinson J, 1923. Contributions towards a phylogenetic classification of flowering plants I. Kew Bull, 1923:65~89
- Janchen E, 1949. Die Systematische Gliederung der Ranunculaceen und Berberidaceen. Denk. Akad. Wiss. Wien Math. Natur. Kl. 108(4):1~82

- Nowicke J W, Skvarla J J, 1995. Pollen morphology of the Ranunculaceae. In P. Hiepko, Nat Pflanzenfam. Aufl. 2, 17a(4). Berlin: Duncker and Humblot
- Stebbins G L, 1973. Evolutionary trends in the inflorescence of angiosperms. *Flora*, 162:501~528
- Tamura M, 1963. Morphology, ecology and phylogeny of the Ranunculaceae II. *Sci Rep Osaka Univ*, 12 (2):146~150
- Tamura M, 1965. Morphology, ecology and phylogeny of the Ranunculaceae IV. *Sci Rep Osaka Univ*, 14 (1):56~64
- Tamura M, 1995. Ranunculaceae. In P. Hiepko, Nat. Pflanzenfam. Aufl. 2, 17a(4). Berlin: Duncker and Humblot.
- Wang W-T(王文采), 1979. Ranunculaceae. *Fl Reip Pop Sin*. Vol 27. Beijing: Science Press.
- Wang F-X(王伏雄), Qian N-F(钱南芬), Zhang Y-L(张玉龙), Yang H-Q(杨惠秋), 1995. Pollen Flora of China. 2nd ed. Beijing: Science Press. 331~339
- Wang X-Q(汪小全), Deng Z-R(邓嵘嵘), Hong D-Y(洪德元), 1998. The systematic position of *Beesia*: evidence from ITS(nrDNA) sequence analysis. *Acta Phytotax Sin(植物分类学报)*, 36(5):403~410
- Wang X-Q, Hong D-Y & Li Z-Y, 1993. A study on pollen and seed coat in the tribe Cimicifugeae and some allied genera(Ranunculaceae). *Cathaya*, 5:131~149
- Xiao P-G(肖培根), 1979. Trib. Cimicifugeae. *Fl Reip Pop Sin*. Vol 27. Beijing: Science Press.
- Xi Y Z, Ning J C, 1993. Pollen morphology and its taxonomic significance of the tribe Cimicifugeae. *Yushania*, 10:45~60
- Yang Q-E(杨亲二), 1998. Does *Actaea asiatica* have the most symmetric and primitive karyotype in the Ranunculaceae? *Acta Phytotax Sin(植物分类学报)*, Does *Acotaea asiatica* have 36(6):490~495
- Yang Q-E(杨亲二), 1999. Correction of Karyotype of diploid *Beesia calthifolia* and discovery of a tetraploid cytotype. *Acta Phytotax Sin(植物分类学报)*, 37(1):1~9
- Yang Q-E(杨亲二), Gu Z-J(顾志建), Sun H(孙航), 1995. The karyotype of *Beesia deltophylla* and its systematic significance. 1995. *Acta Phytotax Sin(植物分类学报)*, 32(3):225~229